## REMARKS/ARGUMENT

This amendment responds to the Office Action of September 10, 2002, in accordance with 37 C.F.R. § 1.116.

Claims 2 through 22, 27 through 55, and 60 are pending in the application. Claims 60, 4, and 16 are amended by this response.

The applicant thanks the Examiner for conducting a telephone interview with the applicant's attorney on December 9, 2002. The applicant amends claims 60, 4, and 16 in accordance with the comments exchanged during the interview.

A Request for Drawing Approval accompanies this response. The applicant corrects an inadvertent typographical error on Figure 2 in the proposed drawing correction. No new matter is added.

**1. Rejection of Claims 1 through 19, 27 through 29, and 30 through 53 under 35 U.S.C. § 102(b)**

The Examiner rejects claims 1 through 19, 27 through 29, and 30 through 53 under 35 U.S.C. § 102(b), stating that the claims are anticipated by U.S. Patent Number 4,450,531 to Kenyon et al. The applicant traverses this rejection and requests reconsideration.

The applicant notes that claim 1 was canceled and new claim 60 was substituted therefor in the June 11, 2002, amendment.

The Kenyon et al. patent fails to disclose at least the steps of "periodically recording samples of ambient noise" as recited in claim 60, "dividing the audio signal into at least two band signals by filtering" as recited by claim 4, and "normalization" as recited in claim 16.

The Kenyon et al. patent fails to disclose the step of "periodically recording samples of ambient noise" as recited in claim 60. The broadcast signal recognition method of the Kenyon et al. patent "employs a plurality of reference segments taken from a recorded program to be broadcast and a plurality of segments taken from the signal actually broadcast." (See the Kenyon et al. patent in column 4 at lines 18 through 22.) The Kenyon et al. patent makes no mention of a periodic sampling of ambient noise as required by claim 60.

The Kenyon et al. patent fails to disclose the step of "dividing the audio signal into at least two band signals by filtering" as recited by claim 4. (See the specification on page 9 at line 30 through page 11 at line 11 and Figure 2.) The Kenyon et al. patent discloses the use of

only one frequency band. The method of the Kenyon et al. patent discloses a first stage of pre-filtering a broadcast signal to select a frequency portion of the audio spectrum that has stable characteristics and a second stage of filtering to obtain a good stable narrow bandwidth signal. (See the Kenyon et al. patent in column 4 at line 60 through column 5 at line 2 and in Figure 1.) Figure 6 of the Kenyon et al. patent shows a broadcast signal that has been divided into several broadcast signal elements. The Kenyon et al. patent discloses a method of dividing a long broadcast audio signal into several small segments, not a method for frequency band splitting as required by claim 4. (See the Kenyon et al. patent in column 6 at lines 25 through 37.)

The Kenyon et al. patent fails to disclose the step of "normalization" as recited in claim 16. The normalization factor claimed by the applicant requires a step of taking the maximum value of a hearing sample. (See the specification on page 11 at line 18 through page 13 at line 16 and Figures 3 and 4.) The Kenyon et al. patent discloses the step of taking the square root of the total power of as segment to obtain a root mean square amplitude of the segment. The root mean square value is then divided into each point P in the segment to obtain a fixed scale factor K where $K^2$ is the variance of each segment. (See the Kenyon et al. patent in column 4 at lines 36 through 52.)

The Examiner is required to support a rejection based upon anticipation with a citation that discloses each and every claimed element. The Kenyon et al. patent fails to disclose at least the steps of claims 60, 4, and 16, as explained above. Therefore, this rejection should be withdrawn.

**2. Rejection of Claims 20, 21, and 54 under 35 U.S.C. § 103(a)**

The Examiner rejects claims 20, 21, and 54 under 35 U.S.C. § 103(a), stating that the claims are unpatentable over U.S. Patent Number 4,450,531 to Kenyon et al. in view of U.S. Patent Number 5,754,798 to Uehara. The applicant traverses this rejection and requests reconsideration.

The Kenyon et al. patent, as discussed above, fails to disclose or suggest the step of "periodically recording samples of ambient noise" as recited in claim 60. This deficiency is not remedied by the disclosure of the Uehara patent.

The Uehara patent relates to a computer system in which a power controller communicates with and informs a central processing unit of a power supply status such as

battery information. (See the Uehara patent in column 1 at lines 15 through 18.) The Uehara patent does not disclose or suggest a method for storing an electrical signal representing recorded ambient noise in compressed form as claimed by the applicant. Even if it could be said to be obvious to modify the Kenyon et al. patent according to anything disclosed or suggested by the Uehara patent, the combination would not satisfy the method of independent claim 60.

Claims 20, 21, and 54 are dependent upon claim 60 and should be allowed for the reasons explained above. In addition, theses claims recite features which, in combination with the features of claim 60, are not taught or suggested by the Examiner's citations. Therefore, this rejection should be withdrawn.

**3. Rejection of Claims 22 and 55 under 35 U.S.C. § 103(a)**

The Examiner rejects claims 22 and 55 under 35 U.S.C. § 103(a), stating that the claims are unpatentable over U.S. Patent Number 4,450,531 to Kenyon et al. in view of U.S. Patent Number 5,901,246 to Hoffberg et al. The applicant traverses this rejection and requests reconsideration.

The Kenyon et al. patent, as discussed above, fails to disclose or suggest the step of "periodically recording samples of ambient noise" as recited in claim 60. This deficiency is not remedied by the disclosure of the Hoffberg et al. patent.

The Hoffberg et al. patent relates to an enhanced interface for facilitating human input of a desired information and for modifying information previously entered. (See the Hoffberg et al. patent in column 1 at lines 20 through 24.) The Hoffberg et al. patent does not disclose or suggest a method for storing an electrical signal representing recorded ambient noise in compressed form as claimed by the applicant. Even if it could be said to be obvious to modify the Kenyon et al. patent according to anything disclosed or suggested by the Hoffberg et al. patent, the combination would not satisfy the method of independent claim 60.

Claims 22 and 55 are dependent upon claim 60 and should be allowed for the reasons explained above. In addition, theses claims recite features which, in combination with the features of claim 60, are not taught or suggested by the Examiner's cited references. Therefore, this rejection should be withdrawn.

## 4. Conclusion

The application is believed to be in condition for allowance. Favorable consideration is respectfully requested.

Respectfully submitted,

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## APPENDIX A

**"CLEAN" VERSION OF EACH PARAGRAPH/SECTION/CLAIM**
**37 C.F.R. § 1.121(b)(ii) AND (c)(i)**

**CLAIMS (with indication of amended or new):**

Please amend claims 60, 4, and 16 as follows.

60. (Amended) A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format.

4. (Amended Three Times) A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format;

dividing the audio signal into at least two band signals by filtering, with each one of the band signals containing a frequency range of the audio signal, and wherein any content of the other band signals contained in each band signal is present only in an attenuated form.

16. (Amended Four Times) A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format; wherein the range of normalized values D is defined by a lower limit $D_u$, and an upper limit $D_o$, and wherein the normalization is effected by:

obtaining the maximum of the absolute value of the audio signal or the derived signal within the duration of normalizing the audio or derived signal, which is shorter than or equal to the duration of a hearing sample,

multiplying the reciprocal value of said maximum by $(D_o - D_u + 1)$, and

multiplying this product by each value of the audio or derived signal within the duration of the normalized signal.

## APPENDIX B

VERSION WITH MARKINGS TO SHOW CHANGES MADE
37 C.F.R. § 1.121(b)(iii) AND (c)(ii)

**CLAIMS:**

Please amend claims 60, 4, and 16 as follows.

60. (Amended) A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first [and/or] or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format.

4. (Amended Three Times) [The method of claim 60, further comprising] A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format;

dividing the audio signal into at least two band signals by filtering, with each one of the band signals containing a frequency range of the audio signal, and wherein any content of the other band signals contained in each band signal is present only in an attenuated form.

16. (Amended Four Times) [The method of claim 60,] A method for storing an electric signal representing recorded ambient noise in compressed form, the method comprising:

periodically recording samples of the ambient noise using a sound transducer;

normalizing the amplitude of a signal output of the transducer within a first predetermined range D;

mapping the normalized amplitude values of the sampled ambient noise onto a second predetermined range of values using a non-linear mapping function to obtain an emphasis of selected values ranges within the first or the second predetermined ranges;

storing the mapped result in an electronic memory in a digital format; wherein the range of normalized values D is defined by a lower limit $D_u$, and an upper limit $D_o$, and wherein the normalization is effected by:

[-]obtaining the maximum of the absolute value of the audio signal or the derived signal within the duration of normalizing the audio or derived signal, which is shorter than or equal to the duration of a hearing sample,

[-]multiplying the reciprocal value of said maximum by $(D_o - D_u + 1)$, and

[-]multiplying this product by each value of the audio or derived signal within the duration of the normalized signal.